INFORMATION

Projection Clock

What does it do?
This clock checks the time with the UK standard time signal that is broadcast from Cumbria 24 hours a day. Inside the clock there is a radio receiver tuned to the time signal as well a back-up digital clock.

How does it work?
MSF is the radio signal which broadcasts the national time standard for the UK. The MSF service broadcast from Anthorn Radio Station in Cumbria is the principal means of disseminating the UK national standards of time and frequency, which are maintained by the National Physical Laboratory. Transmissions are 24 hours a day, and the carrier frequency is maintained at 60 kHz.

Technical Notes
Atomic time is based on counting cycles of a high-frequency electrical signal that is kept in resonance with an atomic vibration. The fundamental unit of atomic time is the SI second. The timescale based on atomic clocks is International Atomic Time (TAI). This time scale is maintained by the International Bureau of Weights and Measures (BIPM), and is based on the comparison of about 200 frequency standards located around the world (including NPL in the UK) which are combined to form a standard time scale.

Did you know?
Although TAI provides a continuous, uniform, and precise time scale for scientific reference purposes, it is not convenient for everyday use because it is not in step with the earth's rate of rotation. A time scale that corresponds to the alternation of day and night is much more useful and, since 1972, all broadcast time services distribute time scales based on Coordinated Universal Time (UTC). UTC is an atomic time scale that is kept in agreement with Universal Time. Leap seconds are occasionally added or subtracted from UTC to keep it within 0.9 seconds of Universal Time (a "real" time, like Greenwich Mean Time)

National Curriculum coverage
This product is suitable for exploring science at KS4 of the National Curriculum. Use it to discover more about Atomic Structure (material and their properties)

In the Science Museum
The Science Museum collection contains the first atomic clock which, when it was developed in 1955, was the most accurate timekeeper in the world. Prior to the standard time was determined by electromechanical clocks, such as the 1942 Quartz Clock from Greenwich Observatory that is also in the Science Museum collection. You can find out more on the web at www.ingenious.org.uk

About the Science Museum
Internationally recognised as one of the world's leading science centres, the Science Museum, London, contains more than 10,000 amazing exhibits, two fantastic simulator rides and the astounding IMAX cinema. Enter a world of discovery and achievement, where you can see, touch and experience real objects and icons which have shaped the world we live in today. Phone +44 (0) 870 870 4868 for details or visit our website: www.sciencemuseum.org.uk

Science Museum, Exhibition Road, London SW7 2DD
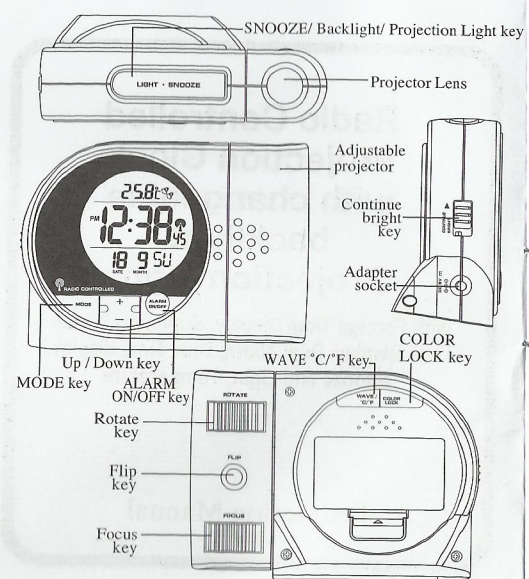Entry to the Science Museum is FREE!

If you have any queries regarding this product, please contact the manufacturer's Customer Helpline on: [020 8208 1833]
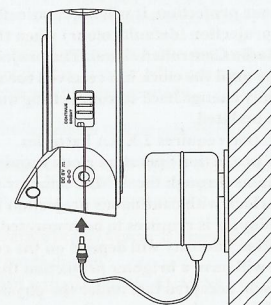
Radio Controlled Projection Clock with changeable backlight Projection Light

with Foreign Time Display, Summer / Winter Time Display, Dual Alarm, Dual Time display, Snooze and Light, Temperature

Instruction Manual
(2414)

SNOOZE/ Backlight/ Projection Light key

LIGHT · SNOOZE

Projector Lens

25.8℃

PM 12:38 ℃
AS

18 9 SU
DATE MONTH

RADIO CONTROLLED

MODE   +   –   ALARM
ON/OFF

Up / Down key

MODE key   ALARM
            ON/OFF key

Rotate
key

ROTATE

Flip
key

FLIP

Focus
key

FOCUS

WAVE °C/°F key

WAVE
°C/°F

COLOR
LOCK

Adjustable
projector

Continue
bright
key

Adapter
socket

COLOR
LOCK key

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To install the AC-DC adapter for Continue Bright:-

Use 2 X AA, 1.5V batteries and AC-DC adapter (AC230V, 6V) included.

Important:
* Please make sure your household voltage matched with the voltage supported by the adapter, or it will damage your clocks and adapter.
* Without plugged in DC adaptor, only blue projection and LCD backlight is on.
* Color lock key: lock / unlock the color of projection and LCD backlight.

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* **While the clock is set to continuous projection or locked to the desired colour projection, it will automatically change to blue colour projection (default colour) when the clock is receiving the Radio Controlled signal. The projection colour will remain blue until the clock has received the signal and will automatically change back to your setting once the signal has been updated.**
* **The clock operation requires 2 X AA batteries.**
* **For continuous projection operation clock requires to be connected to mains through the AC/DC adaptor (included).**
* **To operate the clock with continuous projection both the batteries and adaptor is requires to be connected.**
* **The light variation intensity will depend on the colour chosen, i.e. red will have a brighter projection than other colours . This is an accepted fact under the physics of light that certain colours project stronger than others.**

INDICATOR	STANDING FOR	INDICATOR	STANDING FOR
📡	RADIO SIGNAL	↑	RADIO SIGNAL WEAKLY
D	DATE	z^2	REPEAT ALARM INDICATION
▣	FOREIGN TIME INDICATION	M	MONTH
PM	PM (12 HR DISPLAY ONLY)	⑤	SUMMER TIME INDICATION
AM	AM (12 HR DISPLAY ONLY)	℃	DEGREE CELSIUS
♪	ALARM 1	℉	DEGREE FAHRENHEIT
♪	ALARM 2	DUAL TIME	DUAL TIME

* After the batteries are installed, the LCD will turn on and beep for 2 seconds. The clock will automatically search the radio signal. It takes about 3-8 minutes to finish this process.

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* If the radio signal is received, the date & time will be set automatically with radio control signal icon [📡] turns on.

* If the clock fails to receive the time signal, it will be in Time/Temperature display with the [📡] icon turns off.
  Then user can set the time manually.

* Radio-controlled signal will be scheduled to receive every hour.

N.B.: When the clock is receiving the signal the clock will only show blue light. Will retrieve to changeable light mode after time signal is received.

Selecting Temperature/Alarm 1/Alarm 2/Dual time Display
Go to alarm mode display
* Press **MODE** will display the ALARM 1 time

* Press **MODE** again will display the Alarm 2 time

* Press **MODE** again will display the Dual Time

* Press **MODE** again will display the Temperature

Manual Time Setting
The system date and time can be set by pressing **MODE** for 3 seconds in Time/Temperature display.

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Setting the Time

* Press **MODE**:   the hour digits are blinking and can
                                be set by pressing **UP** or **DOWN** key.

* Press **MODE** again: the minute digits are blinking and can
                                be set by pressing **UP** or **DOWN** key.

* Press **MODE** again: the year digits are blinking and can be
                                set by pressing **UP** or **DOWN** key.

* Press **MODE** again: the month digits are blinking and can
                                be set by pressing **UP** or **DOWN** key.

* Press **MODE** again: the date digits is blinking and can be
                                set by pressing **UP** or **DOWN** key.

* Press **MODE** one last time: the normal time display appears.

Select 12 hour or 24 hour display format
* Press "+" will toggle the display format between 12 hour and 24 hour.
N.B.: 1. If no key is pressed within 30 seconds, it will exit the
             Manual Time Setting Mode and go back to Time /
             Temperature Display without the data update.
        2. During any setting mode, press and hold **UP** or **DOWN**
             key for 2 seconds for fast setting.

Calendar
To change the weekday display from one language to another language,
press **DOWN** key for 3 seconds - the display will show the current
language (GER for German display, ENG for English display).
① " 5E " for German→ ② " II " for Italian → ③ "FR" for French→
④ " 5P " for Spanish→ ⑤ "EN" for English.
Press & Hold **DOWN** key for 2 seconds will toggle to the other
languages.

Setting the Alarm time
ALARM 1 setting
-In the ALARM 1 Display,
* Press **MODE** for about 3 seconds: the hour digits are blinking and
    can be set by pressing **UP** or **DOWN** key.
* Press **MODE** again: the minute digits are blinking and can be set
    by pressing **UP** or **DOWN** key.
* Press **MODE** again, the Alarm time is set and [🔔] icon will
    turn on

ALARM 2 setting

-In the ALARM2 Display,

* Press **MODE** for about 3 seconds: the hour digits are blinking and can set by pressing **UP** or **DOWN** key.
* Press **MODE** again: the minute digits are blinking and can be set by pressing **UP** or **DOWN** key.
* Press **MODE** again, the Alarm time is set and [🔔] icon will turn on.

Enable Alarm 1/Alarm 2:

* Press **ALARM ON/OFF** will enable ALARM 1 with [🔔] icon turns on.

* Press **ALARM ON/OFF** again will enable ALARM 2 with [🔔] icon turns on.

* Press **ALARM ON/OFF** again will enable both ALARM 1 and ALARM 2 with [🔔] and [🔔] icons to turn on.

* Press **ALARM ON/OFF** again will disable both ALARM 1 and ALARM 2 with [🔔] and [🔔] icons to turn off.

Activating the Alarm

When the ALARM 1/ALARM 2 is ringing, the relative alarm icon [🔔] / [🔔] will be flashing.

* Press **ALARM ON/OFF** key to turn the alarm off.
* Press button snooze light - alarm stops and the backlight will turn on for 5 seconds with deleted, the repeat alarm indicator (z^z) flashing. The alarm sounds again after 4 minutes.
* If the alarm is not turned off, it will stop automatically after 4 minutes.

Foreign Time Display & setting

* Press and hold **UP (+)** key for 3 seconds, the icon " **F** " will turn on.
* Press and hold **MODE** for 3 seconds in Foreign Time / Temperature display. The Foreign time can be set as described above by pressing **UP** or **DOWN** key.
* Press **MODE** key again to confirm the setting of foreign time.
* Press and hold **UP** key for 3 seconds to choose between local and foreign time display.

Setting the Dual Time

* The dual time can be set by pressing **MODE** for 3 seconds in Dual Time Display. The hour will flash for input.
* Press **MODE**: the hour of dual time display digits are blinking and can be set by pressing **UP** or **DOWN** key.

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* Press **MODE** again: the minute of dual time
display digits are blinking
and can be set by pressing
UP or **DOWN** key.

* Press **MODE** again to confirm the setting.

Light ON / OFF
* Press top button **[SNOOZE / LIGHT]** key -light will come on
and turn off automatically after 5 seconds.

Projection Light and its adjustment
* Press button **[SNOOZE / LIGHT]**- Projection light will come
on and turn off automatically after 5 seconds.
* When insert adapter and turn on the "Continue - bright" button,
changeable color projection light will turn on continuously until
the "CONTINUE - BRIGHT" button turn off or the AC adapter
is pulled off.
* Turn the **[FOCUS]** key knob to adjust the focus of projection
image.
* Press **[FLIP]** key to rotate the projection image in 180°
orientation clock wise.
* Turn the **[ROTATE]** key knob to rotate the image manually.
* Press **[COLOR LOCK]** key to hold and release the change
ble color.
* Press and hold the **[FLIP]** key for 3 seconds, the projection
image will display Temperature and Time. Press and hold the
[FLIP] key for 3 seconds again, it will reverse as normal to
display the Time only.

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N.B.: Only Blue projector and backlight is on When:
1. DC adaptor is pulled off
2. Continue bright is turned off.
3. When the clock is receiving the radio controlled signal

Temperature function
Press °C/°F to select the temperature display between Celsius or
Fahrenheit.

Receiving the MSF Time CODE
The projection clock will automatically receive the MSF time
code every hour.
Besides, you can force the clock to receive the signal by
pressing "Wave" for 3 seconds, It will take 3-5 minutes to
receive the radio signal. It the time signal is received, the [📡]
icon will be on otherwise it will be off.

CE

Attention! Please dispose of used batteries in
an ecologically safe manner.

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